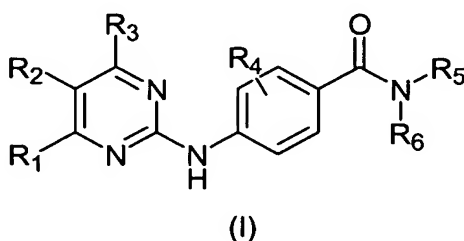


IN THE CLAIMS:

Please amend claims 1, 2, 7-10 and 12 and cancel claims 3-6 without prejudice as set forth below:

1. (Currently Amended) A compound having the structure:



or a pharmaceutically acceptable salt thereof,

wherein:

A1

R₁ is aryl or heteroaryl phenyl, naphthyl, pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinoliny, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnoliny, phthalazinyl, or quinazolinyl, optionally substituted with one to four substituents independently selected from R₇;

R₂ is hydrogen;

R₃ is hydrogen or lower alkyl;

R₄ represents one to four optional substituents, wherein each substituent is the same or different and independently selected from halogen, hydroxy, lower alkyl and lower alkoxy;

R₅ and R₆ are the same or different and independently -R₈, -(CH₂)_αC(=O)R₉,

-(CH₂)_αC(=O)OR₉, -(CH₂)_αC(=O)NR₉R₁₀, -(CH₂)_αC(=O)NR₉(CH₂)_βC(=O)R₁₀,

-(CH₂)_αNR₉C(=O)R₁₀, -(CH₂)_αNR₁₁C(=O)NR₉R₁₀, -(CH₂)_αNR₉R₁₀, -(CH₂)_αOR₉,

-(CH₂)_αSO_cR₉, or -(CH₂)_αSO₂NR₉R₁₀; —

544-1A0
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121
2A3
237
238

or R₅ and R₆ taken together with the nitrogen atom to which they are attached to form a ~~heterocycle or substituted heterocycle~~ substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl.

A¹ R₇ is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, ~~aryl~~ phenyl or naphthyl, substituted ~~aryl~~ phenyl or naphthyl, aralkyl, substituted aralkyl, ~~heterocycle, substituted heterocycle~~ substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl, heterocyclealkyl, substituted heterocyclealkyl, -C(=O)OR₈, -OC(=O)R₈, -C(=O)NR₈R₉, -C(=O)NR₈OR₉, -SO_cR₈, -SO_cNR₈R₉, -NR₈SO_cR₉, -NR₈R₉, -NR₈C(=O)R₉, -NR₈C(=O)(CH₂)_bOR₉, -NR₈C(=O)(CH₂)_bR₉,

-O(CH₂)_bNR₈R₉, or heterocycle substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl fused to phenyl;

R₈, R₉, R₁₀, and R₁₁ are the same or different and at each occurrence independently hydrogen, alkyl, substituted alkyl, ~~aryl~~ phenyl or naphthyl, substituted ~~aryl~~ phenyl or naphthyl, aralkyl, substituted arylalkyl, ~~heterocycle, substituted heterocycle~~

substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl, heterocyclealkyl or substituted heterocyclealkyl;

A' or R₈ and R₉ taken together with the atom or atoms to which they are attached to form a ~~heterocycle, substituted heterocycle~~ substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl;

a and *b* are the same or different and at each occurrence independently selected from 0, 1, 2, 3 or 4; and

c is at each occurrence 0, 1 or 2.

2. (Currently Amended) The compound of claim 1 wherein R₅ and R₆, taken together with the nitrogen atom to which they are attached, form a substituted or unsubstituted ~~non-aromatic heterocycle~~ morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydropyrimidinyl, tetrahydrothiophenyl, tetrahydrothiopyranyl, tetrahydropyrimidinyl, tetrahydrothiophenyl or tetrahydrothiopyranyl.

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Currently Amended) The compound of claim 1 wherein R₁ is ~~aryl~~ phenyl or naphthyl.

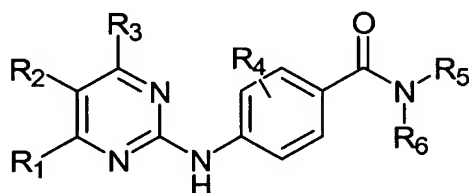
8. (Currently Amended) The compound of claim 3 ~~the non-aromatic heterocycle is~~ wherein R₅ and R₆ taken together with the nitrogen atom to which they are attached, form piperazinyl.

9. (Currently Amended) The compound of claim 3 ~~the non-aromatic heterocycle is~~ wherein R₅ and R₆ taken together with the nitrogen atom to which they are attached, form piperidinyl.

A' 10. (Currently Amended) The compound of claim 3 ~~the non-aromatic heterocycle is~~ wherein R₅ and R₆ taken together with the nitrogen atom to which they are attached, form morpholinyl.

11. (Original) A composition comprising the compound of claim 1 and a pharmaceutically acceptable carrier.

12. (Currently Amended) A method for treating a condition responsive to IKK-2 inhibition, comprising administering to a patient in need thereof and effective amount of a compound having the structure:



or a pharmaceutically acceptable salt thereof,

wherein:

R₁ is ~~aryl~~ phenyl, naphthyl, or heteroaryl ~~pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, or quinazolinyl~~ optionally substituted with one to four substituents independently selected from R₇;

R₂ and R₃ are the same or different and are independently hydrogen or lower alkyl;

R₄ represents one to four optional substituents, wherein each substituent is the same or different and independently selected from halogen, hydroxy, lower alkyl or lower alkoxy;

R₅ and R₆ are the same or different and independently -R₈, -(CH₂)_aC(=O)R₉,

-(CH₂)_aC(=O)OR₉, -(CH₂)_aC(=O)NR₉R₁₀,

-(CH₂)_aC(=O)NR₉(CH₂)_bC(=O)R₁₀, -(CH₂)_aNR₉C(=O)R₁₀,

-(CH₂)_aNR₁₁C(=O)NR₉R₁₀, -(CH₂)_aNR₉R₁₀, -(CH₂)_aOR₉,

-(CH₂)_aSO_cR₉, or -(CH₂)_aSO₂NR₉R₁₀;

or R₅ and R₆ taken together with the nitrogen atom to which they are attached to form a ~~heterocycle or substituted heterocycle~~ substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl;

R₇ is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, ~~aryl~~ phenyl or naphthyl, substituted aryl phenyl or naphthyl, aralkyl, substituted aralkyl, heterocycle, substituted heterocycle substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl, heterocyclealkyl, substituted heterocyclealkyl, -C(=O)OR₈, -OC(=O)R₈, -C(=O)NR₈R₉, -

$C(=O)NR_8OR_9$, $-SO_cR_8$, $-SO_cNR_8R_9$, $-NR_8SO_cR_9$, $-NR_8R_9$, $-NR_8C(=O)R_9$, $-NR_8C(=O)(CH_2)_bOR_9$, $-NR_8C(=O)(CH_2)_bR_9$,

$-O(CH_2)_bNR_8R_9$, or ~~heterocycle~~ substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl fused to phenyl;

A¹ R_8 , R_9 , R_{10} and R_{11} are the same or different and at each occurrence independently hydrogen, alkyl, substituted alkyl, ~~aryl~~ phenyl or naphthyl, substituted ~~aryl~~ phenyl or naphthyl, aralkyl, substituted arylalkyl, ~~heterocycle, substituted heterocycle~~ substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl, heterocyclealkyl or substituted heterocyclealkyl;

or R_8 and R_9 taken together with the atom or atoms to which they are attached to form a ~~heterocycle or substituted heterocycle~~ substituted or unsubstituted pyridyl, furyl, benzofuranyl, thiophenyl, benzothiophenyl, quinolinyl, pyrrolyl, indolyl, oxazolyl, benzoxazolyl, imidazolyl, benzimidazolyl, thiazolyl, benzothiazolyl, isoxazolyl, pyrazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, cinnolinyl, phthalazinyl, quinazolinyl, morpholinyl, pyrrolidinonyl, pyrrolidinyl, piperidinyl, piperazinyl, hydantoinyl, valerolactamyl, oxiranyl, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyrindinyl, tetrahydrothiophenyl, tetrahydropyrimidinyl, or tetrahydrothiopyranyl;

a and b are the same or different and at each occurrence independently selected from 0, 1, 2, 3 or 4; and

c is at each occurrence 0, 1 or 2.

13. (Original) The method of claim 12 wherein the condition is an inflammatory or autoimmune condition.

14. (Original) The method of claim 13 wherein the inflammatory or autoimmune condition is rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis, gout, asthma, bronchitis, allergic rhinitis, chronic obstructive pulmonary disease, cystic fibrosis, inflammatory bowel disease, irritable bowel syndrome, mucous colitis, ulcerative colitis, Crohn's disease, gastritis, esophagitis, hepatitis, pancreatitis, nephritis, psoriasis, eczema, dermatitis, multiple sclerosis, Lou Gehrig's disease, sepsis, conjunctivitis, acute respiratory distress syndrome, purpura, nasal polip or lupus erythematosus.

15. (Original) The method of claim 12 wherein the condition is a cardiovascular, metabolic or ischemic condition.

A1
16. (Original) The method of claim 15 wherein the condition is atherosclerosis, restenosis following angioplasty, left ventricular hypertrophy, Type II diabetes, osteoporosis, erectile dysfunction, cachexia, myocardial infraction, ischemic diseases of heart, kidney, liver, and brain, organ transplant rejection, graft versus host disease, endotoxin shock, or multiple organ failure.

17. (Original) The method of claim 12 wherein the condition is an infectious disease.

18. (Original) The method of claim 17 wherein the infectious disease is a viral infection.

19. (Original) The method of claim 18 wherein the viral infection is caused by human immunodeficiency virus, hepatitis B virus, hepatitis C virus, human papillomavirus, human T-cell leukemia virus or Epstein-Barr virus.

20. (Original) The method of claim 12 wherein the condition is cancer.

21. (Original) The method of claim 20 wherein the cancer is of the colon, rectum, prostate, liver, lung, bronchus, pancreas, brain, head, neck, stomach, skin, kidney, cervix, blood, larynx, esophagus, mouth, pharynx, testes, urinary bladder, ovary or uterus.

22. (Original) The method of claim 12 wherein the condition is stroke, epilepsy, Alzheimer's disease, or Parkinson's disease.

23. (Original) The method of claim 20 further comprising administering an effective amount of a cytotoxic agent or radiation therapy.

24. (Original) A method for treating an inflammatory or an autoimmune condition comprising administering to a patient in need thereof an effective amount of a compound or pharmaceutically acceptable salt of the compound of claim 1.

25. (Original) The method of claim 25 further comprising administering an effective amount of an anti-inflammatory agent.

Al 26. (Original) The method of claim 25, wherein the anti-inflammatory agent is salicylic acid, acetylsalicylic acid, methyl salicylate, diflunisal, salsalate, olsalazine, sulfasalazine, acetaminophen, indomethacin, sulindac, etodolac, mefenamic acid, meclofenamate sodium, tolmetin, ketorolac, dichlofenac, ibuprofen, naproxen, naproxen sodium, fenoprofen, ketoprofen, flurbiprofen, oxaprozin, piroxicam, meloxicam, ampiroxicam, droxicam, pivoxicam, tenoxicam, nabumetone, phenylbutazone, oxyphenbutazone, antipyrine, aminopyrine, apazone and nimesulide, zileuton, aurothioglucose, gold sodium thiomalate, auranofin, colchicine, allopurinol, probenecid, sulfinpyrazone, benzbromarone, enbrel, infliximab, anakinra, celecoxib or rofecoxib.

27. (Original) The method of claim 24, wherein the inflammatory or autoimmune condition is rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis, gout, asthma, bronchitis, allergic rhinitis, chronic obstructive pulmonary disease, cystic fibrosis, inflammatory bowel disease, irritable bowel syndrome, mucous colitis, ulcerative colitis, Crohn's disease, gastritis, esophagitis, hepatitis, pancreatitis, nephritis, psoriasis, eczema, dermatitis, multiple sclerosis, Lou Gehrig's disease, sepsis, conjunctivitis, acute respiratory distress syndrome, purpura, nasal polyp or lupus erythematosus.

28. (Original) A method for treating a cardiovascular, metabolic or ischemic condition comprising administering to a patient in need thereof an effective amount of a compound or pharmaceutically acceptable salt of the compound of claim 1.

29. (Original) The method of claim 28, wherein the condition is atherosclerosis, restenosis following angioplasty, left ventricular hypertrophy, Type II diabetes, osteoporosis, erectile dysfunction, cachexia, myocardial infarction, ischemic diseases of heart, kidney, liver, and brain, organ transplant rejection, graft versus host disease, endotoxin shock, or multiple organ failure.

30. (Original) A method for treating an infectious disease comprising administering to a patient in need thereof an effective amount of a compound or pharmaceutically acceptable salt of the compound of claim 1.

31. (Original) The method of claim 30 wherein the infectious disease is a viral infection.

32. (Original) The method of claim 31 wherein the viral infection is caused by human immunodeficiency virus, hepatitis B virus, hepatitis C virus, human papillomavirus, human T-cell leukemia virus or Epstein-Barr virus.

33. (Original) A method for treating cancer comprising administering to a patient in need thereof an effective amount of a compound or pharmaceutically acceptable salt of the compound of claim 1.

34. (Original) The method of claim 33 further comprising administering an effective amount of an anti-cancer agent.

35. (Original) The method of claim 34 wherein the anti-cancer agent is cyclophosphamide, Ifosfamide, trofosfamide, Chlorambucil, carmustine (BCNU), Lomustine (CCNU), busulfan, Treosulfan, Dacarbazine, Cisplatin, carboplatin, vincristine, Vinblastine, Vindesine, Vinorelbine, paclitaxel, Docetaxol, etoposide, Teniposide, Topotecan, 9-aminocamptothecin, camptothecin, irinotecan, crisnatol, mitomycin C, methotrexate, Trimetrexate, mycophenolic acid, Tiazofurin, Ribavirin, EICAR, hydroxyurea, deferoxamine, 5-fluorouracil, Floxuridine, Doxifluridine, Ratitrexed, cytarabine (ara C), cytosine arabinoside, fludarabine, mercaptopurine, thioguanine, Tamoxifen, Raloxifene, megestrol, goserelin, Leuprolide acetate, flutamide, bicalutamide, B 1089, CB 1093, KH 1060, vertoporphin (BPD-MA), Phthalocyanine, photosensitizer Pc4, demethoxyhypocrellin A (2BA-2-DMHA), interferon- α , interferon- γ , tumor-necrosis factor, Lovastatin, 1-methyl-4-phenylpyridinium ion, staurosporine, Actinomycin D, Dactinomycin, bleomycin A2,

Bleomycin B2, Peplomycin, daunorubicin, Doxorubicin (adriamycin), Idarubicin, Epirubicin, Pirarubicin, Zorubicin, Mitoxantrone, verapamil or thapsigargin.

36. (Original) The method of claim 33 wherein the cancer is of the colon, rectum, prostate, liver, lung, bronchus, pancreas, brain, head, neck, stomach, skin, kidney, cervix, blood, larynx, esophagus, mouth, pharynx, testes, urinary bladder, ovary or uterus.

37. (Original) A method for treating stroke, epilepsy, Alzheimer's disease, or Parkinson's disease comprising administering to a patient in need thereof an effective amount of a compound or pharmaceutically acceptable salt of the compound of claim 1.

38. (Original) The compound of claim 7 wherein aryl is phenyl.
